

CLAIMS

1. A polyurethane obtainable by reacting a polyisocyanate, a polyester formed from a dimer fatty acid and/or dimer fatty diol, and a chain extender, wherein the polyester is additionally formed from a 1,4:3,6 dianhydrohexitol and/or the chain extender comprises a 1,4:3,6 dianhydrohexitol.
2. A polyurethane according to claim 1 wherein the chain extender comprises a 1,4:3,6 dianhydrohexitol, and optionally the polyester is additionally formed from a 1,4:3,6 dianhydrohexitol.
3. A polyurethane according to either one of claims 1 and 2 wherein the polyester is additionally formed from a non-dimer acid, and preferably the ratio of dimer fatty acids to non-dimer acids is in the range from 30 to 70:30 to 70% by weight of the total dicarboxylic acids.
4. A polyurethane according to claim 3 wherein the non-dimer acid comprises adipic acid.
5. A polyurethane according to any one of the preceding claims wherein the polyester is formed from dimer fatty acid, adipic acid and 1,6-hexylene glycol.
6. A polyurethane according to any one of the preceding claims wherein the dimer fatty acid content of the polyurethane is in the range from 10 to 40% by weight.
7. A polyurethane according to any one of the preceding claims wherein the 1,4:3,6 dianhydrohexitol, preferably isosorbide, content of the polyurethane is in the range from 2 to 10% by weight.
8. A polyurethane according to any one of the preceding claims wherein the green strength value is greater than 50 kPa after 1 minute, and/or greater than 200 kPa after 5 minutes, and/or greater than 300 kPa after 30 minutes.

9. A polyurethane according to any one of the preceding claims wherein the tensile strength is in the range from 30 to 200 kgcm² and/or the elongation at break is in the range from 250 to 550%.

5 10. A process for preparing a polyurethane which comprises (i) reacting a polyisocyanate with a polyester formed from a dimer fatty acid and/or dimer fatty diol, to form an isocyanate-terminated prepolymer, and (ii) reacting the prepolymer with a chain extender, wherein the polyester is additionally formed from a 1,4:3,6 dianhydrohexitol and/or the chain extender comprises a 1,4:3,6 dianhydrohexitol.

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11. A hotmelt adhesive comprising a polyurethane obtainable by reacting a polyisocyanate, a polyester formed from a dimer fatty acid and/or dimer fatty diol, and a chain extender, wherein the polyester is additionally formed from a 1,4:3,6 dianhydrohexitol and/or the chain extender comprises a 1,4:3,6 dianhydrohexitol.

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